

REMARKS

In accordance with the foregoing, claims 3, 19 and 20 have been amended. Claim 1, 2 and 4-18 have been cancelled. Claim 21 has been added. Claims 3 and 19-21 are pending and under consideration.

Claims 1, 3, 7, 13-15 and 15-20 are rejected to under 35 U.S.C. § 103(a) as being unpatentable over JP 60-205641, in view of JP 3-253933.

JP 60-205641 discusses an access method accessing one of a plurality of physical volumes included in a logical volume and having two counters for counting the number of requests for each physical volume. By comparing the number of requests values indicated by each of the counters, an access request is issued to a single physical volume in which the number is smallest. In JP '641, the physical volumes store identical data.

However, JP '641 does not discuss a minimum access disk method when a disk unit is abnormal.

JP 3-253933 discusses a duplex disk system for accessing the disks alternately. As shown Fig. 3 in JP '933, table 321 stores a pair physical disk numbers of each logical volume and running status, such as using, not-using and separating, of each physical disk, and alternatively accessing these disks changes a flag to alternately indicate using and not-using.

In contrast to the foregoing references relied upon, taken either alone or in combination with each other, independent method claim 20 of the present application recites "referring to a memory storing a table indicating a plurality of physical disk units and a status information of each of said logical volumes and status information indicating statuses and the operation numbers of each physical disk units", "judging whether or not said status information of logical volume indicates abnormal", "selecting a single physical disk unit on which said designated logical volume is allocated by comparison of the operation numbers in said table when a plurality of physical disk units storing copies of said designated logical volume are normal from said status information of said logical volume in said table", and "selecting a normal physical disk unit among said plurality of physical disk units of said designated logical volume indicated by said table by referring to said statuses of each physical disk unit in said table when said status information of said logical volume indicates abnormal".

Independent apparatus claim 19 of the present application recites similar features of the present invention.

JP 60-205641 discloses a minimum access disk selection, but does not disclose a

minimum access disk method when the disk unit is abnormal.

While, JP 3-253933 discloses a table 321 storing a pair physical disk number of each logical volume and running status, such as using, not-using and separating, of each physical disk, and alternatively accessing changes a flag of using and not-using alternatively, but does not disclose minimum access disk selection.

Further, neither cited reference discloses or suggests that the status of logical volume is investigated to judge whether or not the logical volume is abnormal, and according to the results of the investigating, a single disk selection procedure is selected, as in the present invention.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Please charge any additional fees associated with filing this Preliminary Amendment to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

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By: 

Gene M. Garner, II
Registration No. 34,172

1201 New York Ave., N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501